# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/920,788 | 08/01/2001 | Gordon James Yorke | OR02-13501 | 5192 |

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| 51067 7590 12/22/2005 | | EXAMINER | |
| ORACLE INTERNATIONAL CORPORATION | | BULLOCK JR, LEWIS ALEXANDER | |
| c/o A. RICHARD PARK | | | |
| 2820 FIFTH STREET | | ART UNIT | PAPER NUMBER |
| DAVIS, CA 95616-2914 | | 2195 | |

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 09/920,788 | YORKE ET AL. |
| | Examiner | Art Unit | |
| | Lewis A. Bullock, Jr. | 2195 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>06 October 2005</u>.

2a)☒ This action is **FINAL.**     2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-3,5-7,11-13,15,16,20-24,28,29 and 31-34</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3, 5-7, 11-13, 15, 16, 20-24, 28, 29 and 31-34</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>01 August 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.      Claims 1, 2, 5, 7, 11-13, 15, 20-22, 24, 28, 29 and 31-34 are rejected under 35

U.S.C. 102(b) as being anticipated by ROTHROCK (U.S. Patent 5,408,470).

As to claim 1, ROTHROCK teaches a method for providing object change

information (blocked object changes) from a first system (participant system) to a

second system (another participant system) for synchronizing (deferred synchronizing)

the second system with the first system, the second system having an object cache for

storing objects (local memory / associated media device storing objects) (col. 4, lines

59-65), the method comprising the steps of:  changing an object in the first system (via

participant / arbitrator adding, modifying, or deleting an object); determining an object

change set (blocked change information containing index of the changed object) which

changes made to the object in the first system, wherein the object change set includes:

a primary key value that identifies the object (object meeting structure); and a set of

attribute changes which contain the attribute names and the new attribute values of

attributes that were changed in the object (objects of the meeting structure to add or

change / annotation objects) (col. 8, line 47 – col. 9, line 22; col. 10, lines 1-25); and

sending the object change set directly (blocked change information containing index of

the changed object) from the first system (requesting participant) to the second system

(participant / arbitrator) to cause the second system to apply the object change set

(synchronize the object change) to the corresponding object in the second system's

cache so as to synchronize the second system with the first system (col. 9, line 60 – col.

12, line 46). ROTHROCK also teaches that object managers of the participants keeps

track of participants such as when a participant joins the meeting that after the joining

their objects are synchronized (col. 7, lines 47-54). Therefore, it is inherent within the

teachings of ROTHROCK that a system (participant) registers to the first system (initial

participant) prior to the distribution of the change information from the first system to the

second system since the first system synchronizes the local changes to the remote

participants after they are approved by the arbitrator and therefore must know the other

registered participants in the meeting.

As to claim 2, ROTHROCK teaches a communication link between the first

system and the second system (communication medium between participants) (col. 6,

lines 14-30; col. 4, lines 42-48) and that object managers of the participants keeps track

of participants such as when a participant joins the meeting that after the joining their

objects are synchronized (col. 7, lines 47-54). It is inherent within the teachings of

ROTHROCK that when a participant joins a meeting a communication link is

established between the joining participant and the meeting participant such that

changing of an object in the meeting is propagated to the other participants including

the joining participant.


As to claim 5, ROTHROCK teaches sending the object change information to a

database (arbitrator's copy of objects) for updating the object in the database with the

object change information (via sending the change regarding the object to another

participant for synchronization with that copy of the object) (col. 9, line 60 – col. 12, line

46).


As to claim 7, ROTHROCK teaches the first system (participant) includes an

object cache for storing one or more objects (memory storing local copy of object), and

the method further comprises a step of merging the object change information into the

object cache of the first system (via sending the change regarding the object to another

participant for synchronization with that copy of the object) (col. 9, line 60 – col. 12, line

46).


As to claim 11, ROTHROCK teaches the first system (participant) includes a

cache for storing one or more objects (memory storing local copy of object), the method

further comprising the steps of:  receiving object change information (blocked change

information containing index of the changed object) distributed from the second system

(participant) and containing information of changes made to one or more objects in the

second system (changes made by the participant); and merging the object change

information (blocked change information containing index of the changed object)

received from the second system (participant) into the objects in the cache of the first

system to synchronize the first system with the second system (via deferred

synchronization between any participants) (col. 9, line 60 – col. 12, line 46).


As to claims 12, 13, 15 and 20, refer to claims 1, 2, 5, 7 and 11 for rejection.


As to claims 21 and 22, reference is made to an apparatus, i.e. synchronization

executor that corresponds to the method of claims 1 and  2 and is therefore met by the

rejection of claims 1 and 2 above.  Claim 21 further details the system comprising a

synchronization manager for obtaining object change information representing a change

made to an object in the first system.  ROTHROCK teaches the system comprising a

synchronization manager (object manager) for obtaining object change information

representing a change made to an object in the first system (participant system) (col. 6,

line 60 – col. 7, line 18).


As to claim 24, ROTHROCK teaches a connector (multi-point function) for

obtaining the object change information that is distributed from the second system (col.

6, lines 14-30).

As to claims 32-34, reference is made to a computer readable medium, an

electric signal, and a computer program product that corresponds to the method of

claim 1 and is therefore met by the rejection of claim 1 above.


As to claim 28, ROTHROCK teaches a persistence system (participant) for

synchronizing an object (object) on a network, the network including a caching system

(another participant) having an object cache for storing objects (memory storing local

copy of object), the persistence system comprising: a transaction manager (human

interface layer / object manager) for changing an object and determining an object

change set (blocked change information containing index of the changed object) which

represents changes made to the object, wherein the object change set includes: a

primary key that identifies the object; and a set of attribute changes which contain the

attribute names and the new attribute values that were changed in the object (via the

sending of annotations regarding a meeting object to be synchronized among

participants) (col. 7, lines 13-18; col. 8, line 47 – col. 9, line 22; col. 10, lines 1-25); and

a synchronization executor (object manager / multi-point process) for obtaining the

object change set from the transaction manager and distributing the object change set

to the caching system (another participant) to cause the caching system to apply the

object change set to the corresponding object in the cache so as to synchronize (via

deferred synchronization / the object manager forwards the synchronization information

to the other participants through the multi-point process) the object in the object cache

with the changed object in the persistence system (col. 6, line 14 – col. 7, line 25; col. 9,

line 60 – col. 12, line 46). ROTHROCK also teaches that object managers of the

participants keeps track of participants such as when a participant joins the meeting that

after the joining their objects are synchronized (col. 7, lines 47-54). Therefore, it is

inherent within the teachings of ROTHROCK that a caching system (participant)

registers to the persistence system (initial participant) prior to the distribution of the

change information from the persistence system to the caching system since the

persistence system synchronizes the local changes to the remote participants after they

are approved by the arbitrator and therefore must know the other registered participants

in the meeting.


As to claim 29, ROTHROCK teaches a persistence system cache for storing one

or more objects (memory storing local copy of object) (col. 4, lines 42-65).


As to claim 30, ROTHROCK teaches the transaction manager merges the object

change information into the persistence system cache (memory storing local copy of

object) (col. 6, line 14 – col. 7, line 25).


As to claim 31, ROTHROCK teaches the synchronization executor

communicates over the network (col. 6, lines 14-30), and the dispatcher distributes the

object change information via the network (col. 7, lines 47-54). It is inherent within the

teachings of ROTHROCK that when a participant joins a meeting a communication link

is established between the joining participant and the meeting participant such that

changing of an object in the meeting is propagated to the other participants including

the joining participant.


3.      Claims 1, 2, 5, 7, 11-13, 15, 20-22, 24, 28, 29 and 31-34 are rejected under 35

U.S.C. 102(e) as being anticipated by ZHU (U.S. Patent 6,792,436).

As to claims 1, 2, 5, 7, 11-13, 15, 20-22, 24, 28, 29 and 31-34, ZHU teaches a

method for providing object change information (change request / transaction

information) from a first system (sender) to a second system (receiver) for synchronizing

(synchronizing) the second system with the first system, the second system having an

object cache for storing objects (local cache of objects), the method comprising the

steps of:  changing an object in the first system (via sender creating, updating, or

deleting an object); determining an object change set (change request / transactional

information) which represents changes made to the object in the first system wherein

the object change set includes:  a primary key value that identifies the object; and a set

of attribute changes which contain the attribute names and the new attribute values of

attributes that were changed in the object (via the object change set includes the object

and its associated changes to the attributes with the non changes to the attributes); and

sending the object change set (change request / transaction information) directly from

the first system (sender) to the second system (receiver) to cause the second system to

apply the object change set (synchronize the object) to the corresponding object in the

second system's cache so as to synchronize the second system with the first system

(col. 6, line 35 – col. 7, line 45).  ZHU also teaches that the sender system synchronizes

a change with the receiver system once the database has approved of the change (col.

6, line 35 – col. 7, line 45). Therefore, it is inherent within the teachings of ZHU that the

receiving system must register to sending system prior to the distribution of the change

information from the sending system to the receiving system since the local changes to

the sending system are sent after they are approved by the database and therefore the

sending system must know the other registered system in order to send it the changes.

ZHU also teaches both systems have caches, the sending of the change information

(change request / transaction information) to a database (central database) wherein the

database determines if an error message (update / delete / create has failed) should be

sent, the merging of change information with the object caches (fig. 3, step 128); the

sending of minimal information within the change information (col. 6, lines 12-28), a

primary key (primary key / OCAs) sent with the change information, and a change in

attribute of an object (col. 6, line 35 – col. 7, line 45; fig. 3).

## Claim Rejections - 35 USC § 103

4.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.      Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

ROTHROCK (U.S. Patent 5,408,470).

As to claim 3, ROTHROCK teaches communications medium is any type of communications medium using any one of the various networking standards (col. 6, lines 14-25). Official Notice is taken in that publish/subscribe protocol is a well known communication standard and therefore would be obvious in view of ROTHROCK in order to communicate change information.

As to claims 23, refer to claim 3 for rejection.

6.     Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over ZHU (U.S. Patent 6,792,436).

As to claim 3, ZHU teaches the invention is implemented in a wide range of digital computing network configurations (col. 4, lines 52-65; col. 10, lines 6-38). Official Notice is taken in that publish/subscribe protocol is a well-known network communication configuration and therefore would be obvious in view of ZHU in order to communicate object change information.

As to claims 23, refer to claim 3 for rejection.

7.     Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over ROTHROCK (U.S. Patent 6,792,436) in view of ZHU (U.S. Patent 6,792,436).

As to claim 6, ROTHROCK teaches the synchronization of objects within agents (col. 6, line 60 – col. 7, line 7). However, ROTHROCK does not teach receiving an error message from the database when the updating fails.

ZHU teaches synchronization of object systems comprising the steps of receiving an error message from the database when the updating of the object in the database fails (col. 6, lines 65-67; col. 7, lines 8-9; col. 7, lines 12-14). It would be obvious to one skilled in the art at the time of the invention based on the combination that since the agents of ROTHROCK must synchronize with the arbitrator's copy of objects, i.e. the central database of ZHU, that if the database fails to make the change then the change information must be discarded and not distributed to the other agents. Therefore, it would be obvious to one skilled in the art to combine the teachings of ROTHROCK with the teachings of ZHU in order to facilitate the synchronization of individual caches without having to constantly query the central database (col. 3, lines 31-34).

As to claim 16, refer to claim 6 for rejection.

## Response to Arguments

8.      Applicant's arguments filed October 6, 2005 have been fully considered but they are not persuasive. Applicant's sole argument is that neither Rothrock nor Zhu, either alone or in combination teach the object change set includes a primary key value that identifies the object; and a set of attribute changes which contain the attribute names and the new attribute values of attributes that were changed in the object. In particular,

Applicant argues that Rothrock ensures that all participants of a meeting have the same

list of objects by adding or deleting objects from the list.  Similarly, the invention of Zhu

performs its updates by receiving a new version of the entire object, (b) deletes the old

version of the object, and (c) adds the new version of the entire object into the cache.

The examiner disagrees as to how the teachings of Rothrock or Zhu do not teach the

cited limitations.  First the examiner refers to the M.P.E.P. for the interpretation of the

"includes" clause.  M.P.E.P. 2111.03, details that the transitional term "comprising"

which is synonymous with "including", "containing", or "characterized by", is inclusive

and open-ended and does not exclude additional, unrecited elements or method steps.

Therefore, the object change set which includes a primary key and a set of attribute

changes does not exclude additional, unrecited elements from also being in the set, i.e.

attributes which are not changed.  Therefore, the teachings of Zhu adequately teach the

claim language regardless if the set of Zhu includes unchanged attribute information.  In

regards to Rothrock, attributes of an object are considered to be parts or components of

an object.  Rothrock has an overall meeting containing pages and annotation objects

wherein all of the objects are OLE objects that may contain other objects.  Hence, the

page object and annotation objects are attributes and contained in of a meeting object

of the participants.  Therefore, when one participant updates its meeting structure with a

new page or a change of an annotation in a page object of a meeting object is

performed, this update is sent from the participant to another participant or the arbitrator

in order to synchronize their meeting with that of the changed meeting object.

Therefore, attributes of an object as well as an object identifier are sent in order to

synchronize participants. It is irrelevant whether the update that is sent among the participants also includes unchanged attributes since the "includes" clause in the claims allows for additional elements to be within the set also. Therefore, both Rothrock and/or Zhu adequately teach the limitations of the claims and therefore the claims are finally rejected.

Applicant would also like to make Applicant aware of a plurality of other references cited but applied that adequately teach the sending of update information among object systems wherein the update information consists of only: a primary key and a set of attribute changes. The majority of the references cited in the current Notice of References cited and some previously cited would adequately meet this limitation with a consisting clause either singly or in combination.


## Conclusion

9.      **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
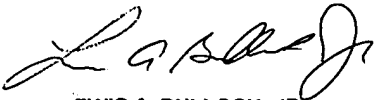
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lewis A. Bullock, Jr. whose telephone number is (571) 272-3759. The examiner can normally be reached on Monday-Friday, 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 16, 2005

LEWIS A. BULLOCK, JR.
PRIMARY EXAMINER